REMARKS

Claims 1-12 and 14-36 are pending in this application. All of the pending claims are rejected under 35 U.S.C. 103(a). None of the claims are currently amended. Reconsideration and further examination are respectfully requested.

Claims 1-12 and 14-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sistanizadeh et al. (U.S. 6,681,232) in view of Burton et al. (U.S. 5,572,347). In the previous response Applicant described how the claims distinguish Sistanizadeh by reciting automated provisioning in an all-optical network such that a path may be set up and torn down quickly, e.g., in seconds rather than weeks or months, without exposing sensitive network topological data to the user. The Office concedes that Sistanizadeh fails to teach provisioning in the optical domain, i.e., configuring all-optical equipment to set up and tear down paths, but asserts that a newly cited reference, Burton, teaches this limitation at column 5, lines 9-15, column 6, lines 1-34, column 9, lines 56-67, column 13, lines 60-67, column 14, lines 1-7, and column 15, lines 34-42. Applicant respectfully traverses.

An all-optical network is one in which transport and processing occur in the optical domain. It has long been known to use optical links to connect nodes which process traffic in the electrical domain. So-called "OEO" (optical-electrical-optical) nodes have optical ports, but must convert signals to the electrical domain for processing. While processing in the electrical domain permits buffering, IP/MPLS routing, and other features that are not presently practical in the optical domain, the conversion from optical to electrical and back to optical is costly if none of those electrical domain features are required. A so-called "OOO" (optical-optical-optical) node avoids the conversions to and from the electrical domain. In either case, the links between

the nodes are optical. It should therefore be apparent that the all-optical network is distinguished not by optical links, but rather by the nodes that avoid conversion to the electrical domain.

Burton describes an access network segment between the CO and the subscriber residence that uses OEO nodes. For example, in the passage cited by the Examiner at column 5, and also at column 5, lines 64-67, Burton describes use of SONET systems. SONET systems utilize timeslot interchange processing in the electrical domain. In particular, SONET frames are switched on the basis of time, and that function cannot presently be done in the optical domain. Similarly, in the passage cited by the Examiner at column 6 the Burton network includes an analog switch, a digital switch, and various equipment identified by Alcatel's trade names which process in the electrical domain. For example, at column 6, lines 35-37, Burton states "the LCX-50 core 24 utilizes a non-blocking switch fabric in the form of a time slot interchanger 26." The passages cited at columns 9 and 13-15 describe optical links. However, as discussed above, the all-optical network is distinguished not by optical links, but rather by the nodes that avoid conversion to the electrical domain. Since Burton fails to describe an all-optical network, it follows that Burton fails to teach provisioning, or any other action, in an all-optical environment. Similarly, Sistanizadeh describes a network in which transport links might be optical, but in which the nodes are electrical. Sistanizadeh states that IP-over Ethernet on fibre network is supported.[1] The use of IP implies routing, a protocol which cannot be executed in the optical domain because there is no practical technique for optically buffering packets while table lookups are performed. Therefore, Sistanizadeh fails to teach provisioning in an optical network where data is processed and transported only in optical form.

In view of the above, the presently claimed invention distinguishes the cited combination by reciting a technique for automatically provisioning in an all-optical network without exposing

sensitive network topological data to the user. For example, claim 1 distinguishes the cited combination by reciting "an optical service agent including: a user-to-network interface (UNI) for interfacing with an optical communication network in which data is processed and transported only in optical form … optical service logic for interacting with the optical communication network via the UNI … for providing said bandwidth management services for the user, including provision of a new optical communication path between specified nodes in the optical communication network." Similarly, claim 12 distinguishes the cited combination by reciting "a user application requiring communication services from an optical communication network in which data is processed and transported only in optical form; and an optical service agent for communicating with the optical communication network and providing optical communication network bandwidth management services for the user application, including provision of a new optical communication path between specified nodes in the optical communication network." Claim 24 distinguishes the cited combination by reciting "an optical communication network in which data is processed and transported only in optical form; … wherein the first network user comprises an optical service agent for obtaining optical communication services from the optical communication network via a user-to-network interface (UNI) communicating with the optical communication network … including provision of a new optical communication path between specified nodes in the optical communication network." Claim 31 distinguishes the cited combination by reciting "obtaining additional bandwidth by an optical service agent in the user for a connection in the optical communication system, including provision of a new optical communication path between specified nodes in the optical communication system; relinquishing unused bandwidth by an optical service agent in the user for a connection in the optical communication system; and allocating bandwidth by an optical service agent among multiple

[1] See, e.g., Abstract

connections in the optical communication system, prior to which an optical service server executes the following steps: authenticating the user; obtaining network topological information; and employing the network topological information on behalf of the optical service agent to provide bandwidth management services such that the network topological information is not exposed to the first network user." Claims 2-11, 13-23, 25-30, 32-36 are dependent claims which further distinguish the invention, and which are allowable for the same reasons as their respective base claims. Withdrawal of the rejections of claims 1-36 is therefore requested.

Should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone the undersigned, Applicants' Attorney at 978-264-4001 so that such issues may be resolved as expeditiously as possible. For these reasons, and in view of the above amendments, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Respectfully Submitted,

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